IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: **Wang, et al.**

Serial No.: **10/590,040** Group Art Unit: 1645

Filing Date: **November 21, 2006** Examiner: **Brian J Gangle**

Confirmation No.: **5612**

For: **T CELL IMMUNE RESPONSE INHIBITOR**

Commissioner for Patents
P.O.Box 1450
Alexandria, VA 22313-1450

Dear Sir:

DECLARATION OF DR. BIN WANG

I, Dr. Bin Wang, do hereby declare as follows:

1. I am a co-inventor of the subject matter claimed in the above-identified U.S. Patent Application.

2. I am a Professor of Center for Life Science, China Agricultural University, Beijing, China.

3. I or those under my direction have made compositions for inhibiting a Th1 T-cell immune response comprising a) a nucleic acid eukaryote cell expression carrier encoding a targeted antigen; and b) the targeted antigen polypeptide that is encoded by said nucleic acid eukaryote cell expression carrier encoding a targeted antigen, wherein ratio of the nucleic acid eukaryote cell expression carrier to the targeted antigen polypeptide is selected from the group

consisting of 5:1 (w/w), from 2:1 to 10:1(w/w), from 1:5 to 5:1(w/w), and from 1:2 to 1:10(w/w); and wherein the composition is effective to inhibit a Th1 T-cell immune response to the antigen.

4. A Th1 T-cell immune response can be measured by measuring T-cell proliferation.

5. Mice were administered with a composition that comprised a 1:1 (w/w) of Flea Antigen protein and a nucleic acid encoding the same antigen. T-cell proliferation was measured and found to be inhibited as compared to a positive control and as compared to a mice that contacted with just the peptide antigen or a nucleic acid sequence encoding the same antigen. This data has been recently published in *Vaccine* 28 (2010) 1997-2004 (Exhibit 1, attached hereto).

6. T-cell proliferation was also inhibited as compared to the controls in mice that were contacted with a composition comprising an zona pellucida 3 protein and a nucleic acid sequence encoding the same at ratios of 2:1 and 4:1. (Exhibit 2).

7. T cell proliferation was inhibited in mice contacted with insulin and a nucleic acid encoding insulin, wherein the ratio of the nucleic acid molecule encoding the targeted antigen to the antigen was 1:2. (Exhibit 3). The data generated in this group of experiments using a ratio of 1:4 did not provide a consistent result.

8. T cell proliferation was inhibited in mice contacted with OVA protein antigen and a nucleic acid encoding the same, wherein the ratio of the nucleic acid molecule encoding the antigen to the antigen was 1:1, 1:2 or 1:4 depending on whether the full length protein or a

peptide was used. (Exhibit 4A and 4B) Regardless a ratio was found for OVA that could be used to inhibit T-cell proliferation (Exhibit 4A) and found to inhibit asthma (Exhibit 4B).

9. T cell proliferation was inhibited in mice contacted with Derp1 protein and a nucleic acid encoding Derp1 protein, wherein the ratio of the nucleic acid molecule encoding the targeted antigen to the antigen was 1:1. (Exhibit 5).

10. I declare that all statements made herein are of our own knowledge true and statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Bin Wang, Ph.D

Date July 2nd, 2010